Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 97 of the Commission's	)	WT Docket No. 05-235
Rules To Implement WRC-03 Regulations	)	
Applicable to Requirements for Operator Licenses in the Amateur Radio Service	)	

REPLY TO COMMENTS OF JAMES PERRYMAN

Mr. Perryman addresses mainly issues relating to emergency services, an area the Commission has, on a number of occasions, ruled as not being *required* of amateur radio service licensees. The arguments for such use have been in the forefront of filings from both sides of the issue of Morse code testing, most likely due to the recent memories of hurricane relief throughout the Gulf Coast region.

At one point, however, Mr. Perryman states:

> Many of the Digital Modes currently in active use can achieve 100% accurate copy at levels approaching 23dB below the ambient noise floor.

There have been a number of filings touting the advantages of various digital modes, especially their ability to copy signals below the threshold of human hearing. While there is no doubt that such programs exist, and that they can out perform the use of CW, they can only do so with some basic limitations. Mr. Perryman does not delineate which specific digital modes meet his requirements, and I know of only one, namely the JT65B part of the WSJT[1] package. A more appropriate quotation might have been "can approach 100% accurate copy at a signal-to-noise ratio of –23 dB" as JT65B typically provides 95% accuracy at that point. What Mr. Perryman has *not* mentioned is that even at this performance, it requires pre-arranged scheduling between the two stations so they know what frequency to use. It is also required that the stations be synchronized in time to at least one second, as there is a protocol for which station will transmit starting at the minute. Another thing not mentioned is that the quoted performance is in the presence of additive white Gaussian noise (AWGN), not in the presence of static or adjacent channel interference. In addition, this performance comes about through

[1] For Weak Signal communications, K1JT. This family of programs, written by Nobel Laureate Dr. Joe Taylor, are used mainly for moonbounce, meteor scatter and tropo-scatter contacts.

the use of extremely structured messages that limit the content of a message. While it is true that plain text can be transmitted, Mr. Perryman has failed to note that only 13 characters can be sent each minute this way. This is approximately 2.5 words per minute – and people think that CW is slow?

Tradeoffs for power, bandwidth, data rate, and accuracy of copy are the mainstay of commercial point-to-point communications systems, and not generally applicable to the amateur service.